

## FIELD AND LABORATORY OBSERVATIONS ON TRICHOMONIASIS OF DAIRY CATTLE IN VICTORIA

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### Introduction

When investigating infertility in a dairy herd in the Western District of Victoria in 1948, Albiston and Flynn detected, in the uterus of a cow with pyometra, an organism which morphologically they identified as *T. foetus*. This cow and six others, together with the two herd bulls, were slaughtered. The remainder of the herd was given a period of sexual rest, new bulls were introduced, and no further trouble was experienced. Apart from this unpublished finding there is no evidence of the establishment of a reasonably certain diagnosis of trichomoniasis in Victoria.

As part of a current investigation of herd infertility in Australia, 50 problem herds in the main dairying districts of Victoria were examined for trichomoniasis. The term "problem herd" was applied to herds believed to be virtually free from the effects of brucellosis on account of strain 19 vaccination or other control means, and with a conception rate\* (CR) under 50%; or with a services per conception figure (S/C) greater than 2; or with a history of absence or irregularity of oestrus; or with a history of abortion of which the cause had not been established by the application of current diagnostic tests. In the examination of a problem herd, cows exhibiting such abnormalities were selected and vaginal mucus samples were collected from them by the pipette method. On farms where facilities for handling bulls existed, preputial washings from the herd sires were also obtained. Twenty-five bulls in 12 of the 50 herds were sampled in this manner. All samples were transported to the laboratory as promptly as possible. Wet preparations of vaginal mucus and the centrifuge deposit of preputial washings were examined microscopically under low power, and then sown into suitable culture media. The remainder of the mucus sample was used for the agglutination test.

### Materials and Methods

These were as described by Pierce (1947) except that for primary cultures of vaginal mucus

and of preputial washings 500 units of dimycin and 250 units of penicillin were added to each tube of culture medium.

### Results of Herd Survey

Of 50 problem herds studied, only one proved to be affected by trichomoniasis.

An investigation of this herd was made in 1955 at the request of the local veterinary practitioner. The property concerned was a large one subdivided into four share dairy farms, numbered 1 to 4. Since 1950 all young stock had been strain 19 vaccinated. Infertility had manifested itself in the No. 4 herd, of approximately 70 cows, in 1951. In the following year 37 cows which failed to conceive were sold, and a further 34 in 1953. Despite this drastic culling, infertility persisted in this herd but it was not evident in herds Nos. 1, 2 or 3. Perusal of the very well-kept 1954 breeding records revealed that the No. 4 herd, then 45 in number, had a CR of 25% and an S/C figure of 4. At the end of the breeding season only 22 of the 45 cows were pregnant.

### Details of Observations on an Infected Herd

In February 1955 there were 56 cows in this herd (No. 4). Vaginal mucus samples were taken by pipette from 21 cows with bad breeding histories. Nineteen of these gave positive reactions to the mucus agglutination test but *T. foetus* could not be found in wet smear preparations or in cultures. Some days later, however, *T. foetus* was recovered from the rumen and abomasum of an aborted foetus of a cow in the herd.

In an examination of the remaining 35 cows, 17 gave positive vaginal mucus agglutination reactions, and in two of these *T. foetus* was found in wet smears and in cultures. Thus of the 56 cows in the herd, 36 gave evidence of past or present infection with *T. foetus*. By initial examination of preputial washings of the three bulls trichomoniasis was diagnosed in two; both showed *T. foetus* in cultures and one also in wet smears. The bull positive to both tests was purchased and brought to the laboratory for further investigation. When tested sero-

\*The percentage conceiving to first service.